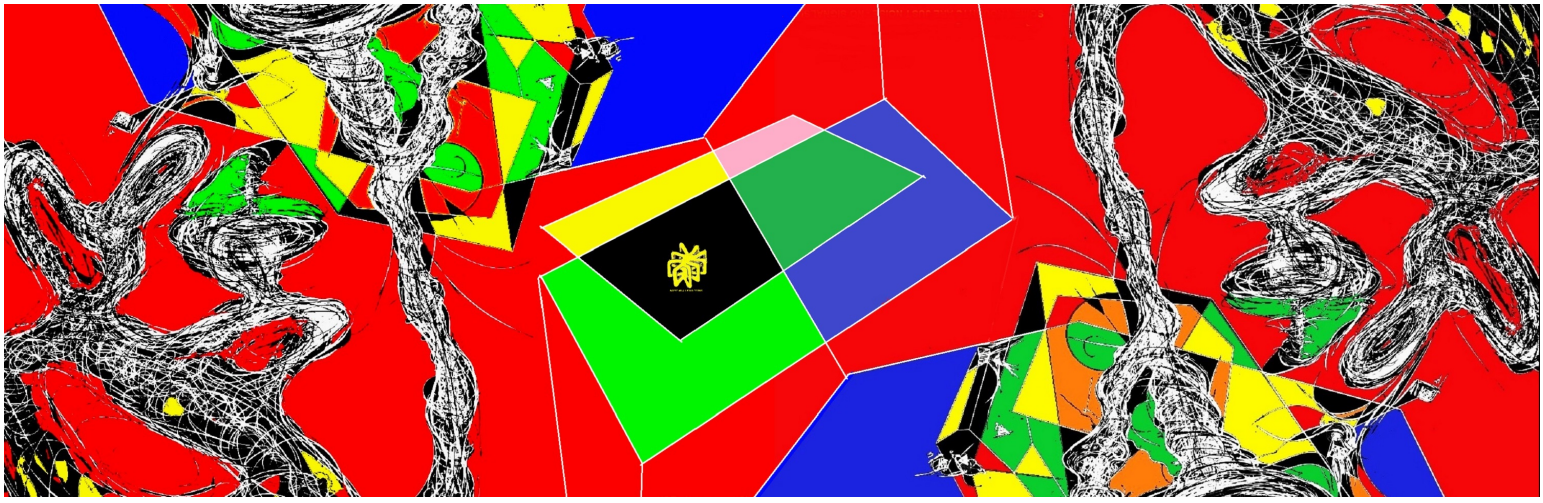


FC, CEN, and SEN NODES for Building CAUSAL NETWORKS

SCOTT MATHESON HITCHCOCK

►►►►►UNDERSTANDING AND SOLVING THE PROBLEM OF THE FUNDAMENTAL NATURE OF *TIME* REQUIRES A SYSTEMS APPROACH WHERE THE SOLUTION IS FOUND BY CREATING A SYSTEM BUILT WITH CAUSAL NETWORKS, FEYNMAN CLOCKS, AND THE BRAINS T-COMPUTER.

►►►►► A SYSTEMS APPROACH GIVES US THE SOLUTION TO THE PROBLEM OF TIME: FOR SIMPLE SYSTEMS, ACCORDING TO THE PRINCIPLE OF OCCAM'S RAZOR THE SIMPLEST EXPLANATION FOR OBSERVED BEHAVIORS IS THE BEST CHOICE. BUT FOR COMPLEX SYSTEMS, A SYSTEMS APPROACH IS NECESSARY FOR UNDERSTANDING COMPLEX PHENOMENA AND HOW TIME IS CREATED BY CHANGE IN THE UNSTABLE CONFIGURATIONS OF MATTER THROUGHOUT THE UNIVERSE.

►►►►►SIMPLE EXPLANATIONS ABOUT THE FUNDAMENTAL NATURE IF TIME ARE NOT ADEQUATE, THIS IS WHY TO UNDERSTAND THE NATURE OF TIME HIS SYSTEMS APPROACH WORKS BEST TO CLARIFY ISSUES ABOUT THE FUNDAMENTAL PHYSICS AND NATURE OF TIME INCLUDING TIME TRAVEL AND OTHER TIME EFFECTS.

►►►►►BELOW ARE SOME OF THE VARIOUS TOOLS THAT CAN BE USED TO BUILD CAUSAL NETWORKS TO MODEL REALITY SUCH AS COLLECTIVE EXCITATION NETWORKS [CENs] AND SEQUENTIAL EXCITATION NETWORKS [SENs].

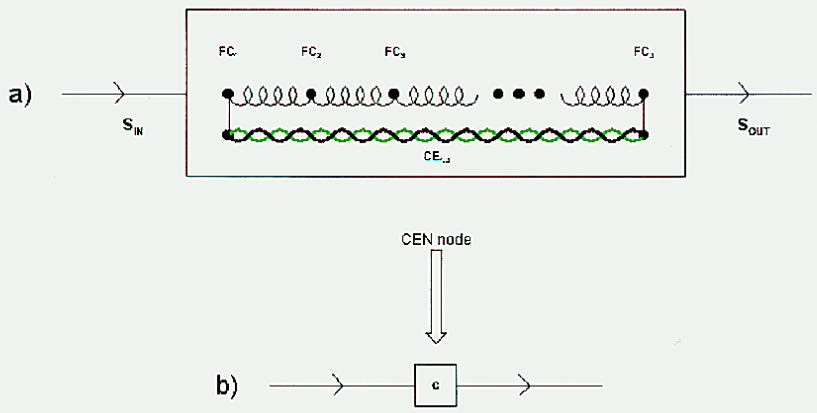


Figure 1: A general Collective Excitation Network or CEN 'node or 'gate' as an 'entangled' or coupled system of 'J' Feynman Clocks with a phonon-like Collective Excitation $CE_{1,J}$. The simplified causal network node notation is shown below.

CEN DIAGRAM

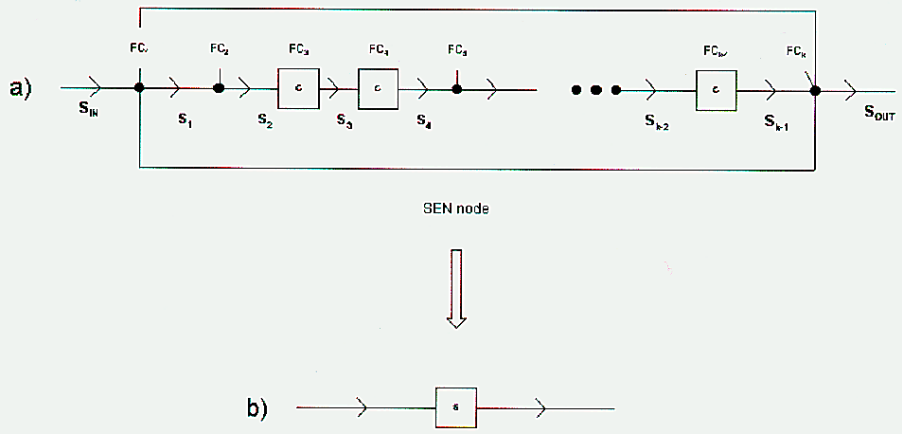


Figure 2: A general Sequential Excitation Network or SEN 'node' or 'gate' as a sequence of k-Feynman Clocks or CENs and $k+1$ signals. Information flows from left to right with a 'classical' lifetime equal to the sum of the lifetimes of the nodes and the internodal signals (transit or decay lifetimes). The simplified causal network node notation is shown below.

SEN DIAGRAM

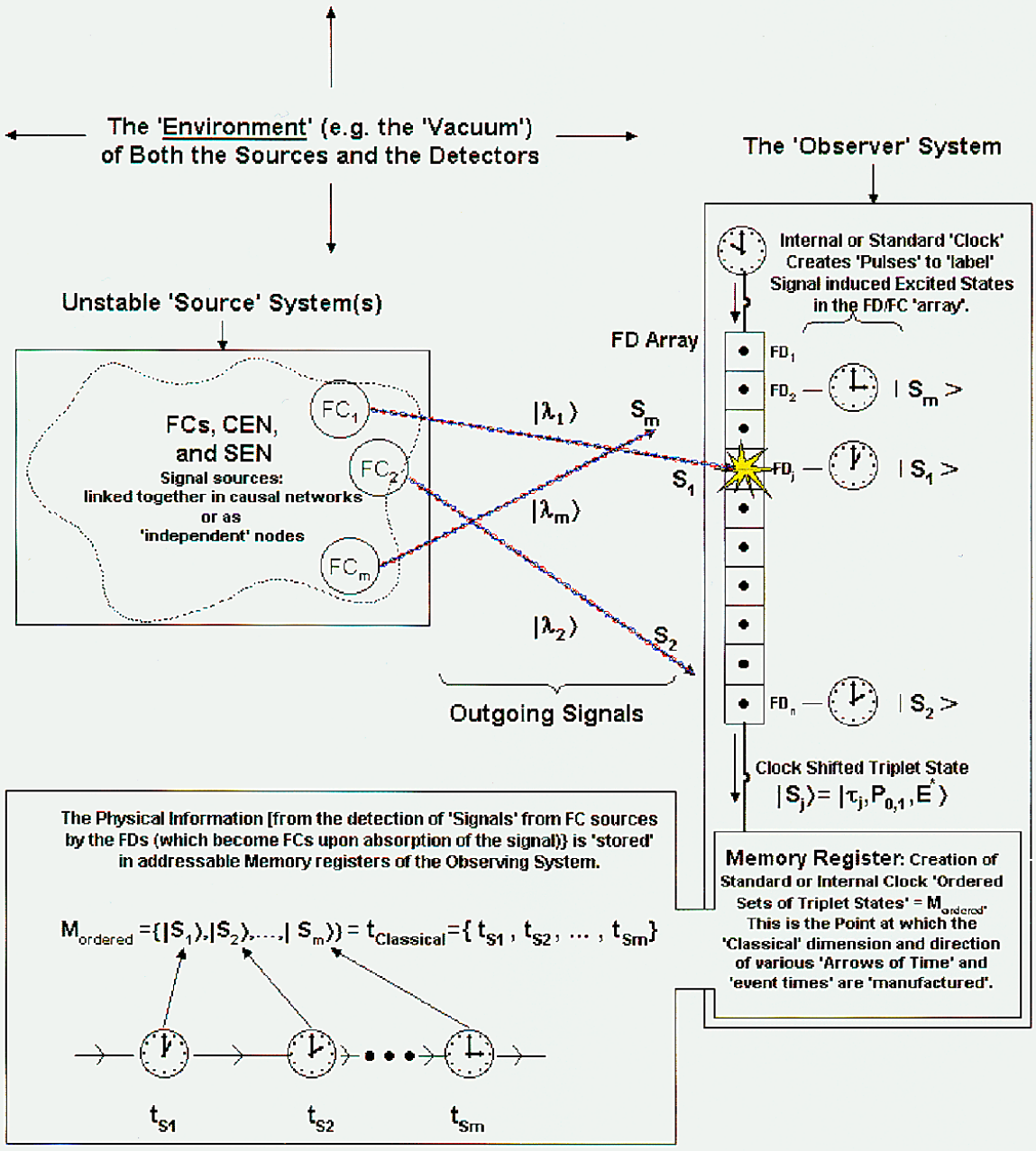


FIGURE 3 The Signal Mapping process in which 'event' signals originating in FCs are detected in FD arrays (the FD 'mode' of FCs in an array) creating states that are entangled with standard or internal clock pulse signals, event counter labels, and signal induced detector states (see Figure 4). These are stored in memory or processed further to extract the number that is used to label a 'time' with an event.

SIGNAL MAPPING TO CREATE TIME LABELED MEMORIES

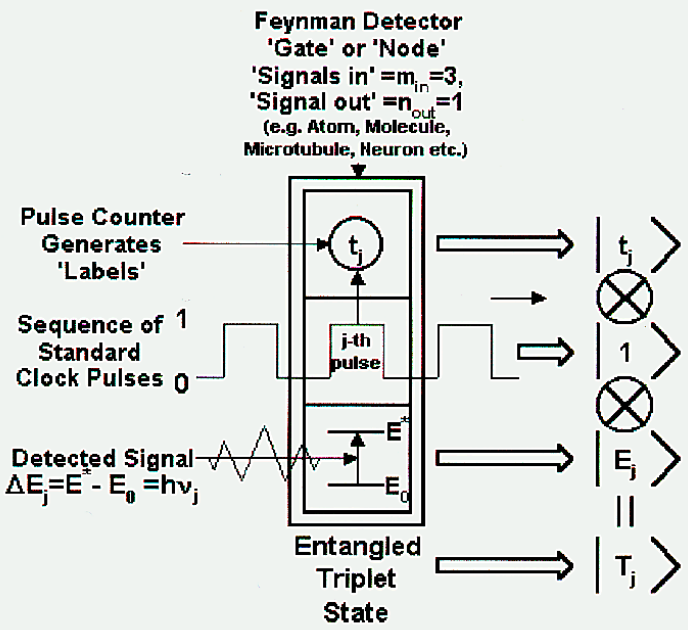


Figure 4: The creation of an *entangled* Triplet State that couples a detector state with a standard clock pulse and a label state generated by a pulse counter.

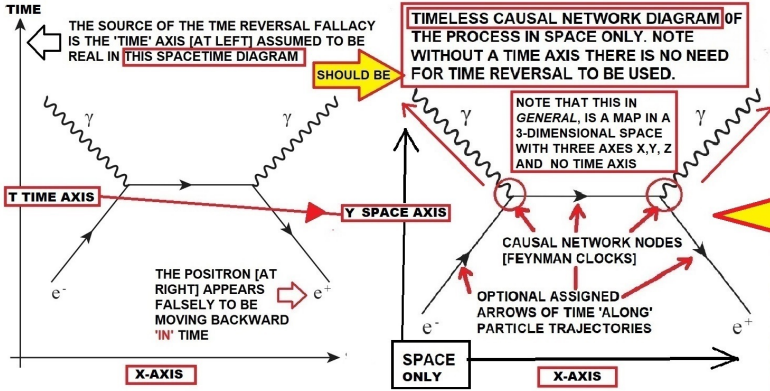
CREATING TIME FROM A STANDARD CLOCK PULSE SIGNAL COUPLED TO A FEYNMAN CLOCK IN A STATE OF DETECTION OF A SIGNAL THAT GIVES A TIME LABEL TO THE INFORMATION CONTENT OF THE SIGNAL.

Causal Network Node Symbol:	Feynman Operator, F:	Example:
m = 0 ○ n = 0	$F = \langle 0 \mid H_{0,0} \mid 0 \rangle$	'Vacuum', Equivalent 'mass' = 0
m = 0 ● n = 0	$F = \langle 0 \mid H_{0,0} \mid 0 \rangle$	Stable Particle or System Equivalent 'mass' ≠0
m = 0 ○ n = 2	$F = \langle 2 \mid H_{0,2} \mid 0 \rangle$	Vacuum Fluctuations; Virtual Pair Production
m = 0 ● → n = 1	$F = \langle 1 \mid H_{0,1} \mid 0 \rangle$	Simple Decay; Fluorescence, Relaxation of Collective Excitations
m = 1 → ● → n = 1	$F = \langle 1 \mid H_{1,1} \mid 1 \rangle$	'Linear' Transmission of Signals, Logic Gates
m = 0,1 → ● n	$F = \langle n \mid H_{0,n} \mid 0 \rangle$	Multiparticle 'Spontaneous' Decay of a Nucleus, Big Bang
	$F = \langle n \mid H_{1,n} \mid 1 \rangle$	Scattering, Stimulated Decay or Emission through Collisions
m n = 0,1	$F = \langle 0 \mid H_{m,0} \mid m \rangle$	Fusion, Creation of System in an Excited State, With or Without a 'Target Mass'
	$F = \langle 1 \mid H_{m,1} \mid m \rangle$	Neurons, 'Irreversible' Quantum or Classical Logic Gates, Information 'Funnels'
m n	$F = \langle n \mid H_{m,n} \mid m \rangle$	The General Form of the Feynman Clock, Node, or Gate
m_B G n_R	$F_G = \langle n_R \mid H_G \mid m_B \rangle$	A Feynman Clock in a Gravitational Field with blue(m) and red(n) shifts of in/out signals respectively

Causal Network Node Symbol:	Feynman Operator, F:	Example:
m C n	$F_{CEN} = \langle n \mid C_{m,n} \mid m \rangle$	CEN or Collective Excitation Network; Crystals, Lattices, DNA,etc., with collective rotational, vibrational, and translational modes. Signals: EM waves, Photons, Plasmons, Excitons, Phonons, and Solitons etc.
m S n	$F_{SEN} = \langle n \mid S_{m,n} \mid m \rangle$	SEN or Sequential Excitation Network; Photosystems I and II, Cell Life Cycles, Quantum Computers, Neural Networks, Central Nervous System etc., Signals and States can be a mixture of FCs, FDs, CENs and sub-SENs with Quantum and Classical Collective Excitations.
d_λ, v_λ; FC_λ, λ_{FC}, FD_λ	$F_\lambda = \langle \Psi_{FD} \mid H_\lambda \mid \Psi_{FC} \rangle = d_\lambda / v_\lambda$	A signal trajectory FC: where the 'path' between a FC node and a FD node is treated as a decay of a single FC system. The signal 'lifetime' is equal to a 'classical' free particle traversal or transit time for an average velocity 'v_λ' over a total distance 'd_λ' (Note that the path may be curved and the velocity may vary, see text).
FC → ● FD; ● ← FC	$F_{FD} = \gamma^{-1} F_{FC}$ $= (1-(v^2/c^2))^{1/2} F_{FC}$ $= \gamma^{-1} \langle 1 \mid H_{m,1} \mid m \rangle_{FC}$	Emission of a Signal from a FC (or CEN) in motion Relative to a FD (or CED); Doppler blue shifted and red shifted signals for FC moving towards and away from the FD respectively. The FC may have a velocity, v, where γ is the relativistic correction term for the Feynman Operator acting on FC as seen by FD.

FEYNMAN CLOCK [FC], COLLECTIVE EXCITATION NODE [CEN], AND SEQUENTIAL EXCITATION NODE [SEN] REPRESENTATION FOR BUILDING CAUSAL NETWORKS.

JUST LOOK AT THE AMAZING RESULTS: $\tau_{GUTs} = \alpha\tau_{strong} = \beta\tau_{weak} = \delta\tau_{electromagnetic} = \varepsilon\tau_{gravity}$



WHY Feynman's Positron Time Reversal Proposal in 1949 is WRONG AND THE TIME REVERSAL & TRAVEL MYTHS are *FINALLY CLEARED UP* by SCOTT MATHESON HITCHCOCKS THEORY OF TIME

SCOTTS NEW THEORY OF TIME: WHERE TIME IS COMPUTED FROM INFORMATION EXTRACTED AND PROCESSED FROM SIGNALS BY A *SYSTEM* COMPOSED OF CAUSAL NETWORKS, FEYNMAN CLOCKS [AS NODES IN THE CAUSAL NETWORKS], STANDARD CLOCKS [FOR CALIBRATION], AND THE BRAINS T-COMPUTER.

►►►► A SYSTEMS APPROACH GIVES US THE *SOLUTION* TO THE PROBLEM OF TIME:

FOR SIMPLE SYSTEMS, ACCORDING TO THE PRINCIPLE OF OCCAM'S RAZOR THE SIMPLEST EXPLANATION FOR OBSERVED BEHAVIORS IS THE BEST CHOICE. BUT FOR COMPLEX SYSTEMS, A *SYSTEMS APPROACH* IS NECESSARY FOR UNDERSTANDING THE OBSERVED PHENOMENA. CLEARLY SIMPLE EXPLANATIONS ABOUT THE FUNDAMENTAL NATURE IF TIME ARE NOT ADEQUATE, THIS IS WHY SCOTT REALIZED THAT TO UNDERSTAND THE NATURE OF TIME HIS SYSTEMS APPROACH WORKS TO CLARIFY ISSUES ABOUT THE FUNDAMENTAL PHYSICS AND NATURE OF TIME.